

It may be interesting, also, to note that along with the gall-flies, inquilines and parasites, there were bred various Cecidomyids, saw-flies, cuckoo-flies, ichneumons, braconids and ants.

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## MISCELLANEOUS NOTES AND DESCRIPTIONS OF NORTH AMERICAN GEOMETRIDÆ.

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### *Petrophora rubrosuffusa*, new species.

Expanse, 24-27 mm. Palpi and front deep brown, vertex whitish or reddish, sometimes composed of a combination of these colors. Thorax and abdomen soiled yellowish, the collar and patagia of the former marked with black, all wings soiled whitish suffused with a delicate shade of grayish-brown, and, on the costal area of the primaries with pink most pronounced toward the apex. Intradiscal line of primaries absent or marked on the costa one-fourth out by a white, squarish spot. Median line similarly marked on the costa slightly inward of the middle. Extradiscal line whitish, rather broad, distinct on anterior half of wing, obscure or absent on posterior half; extends from one third in on costa in an even outward curve to  $M_3$ , then, forming an acute angle, runs in an even inward curve to inner margin. Discal spots absent. Beneath, pinkish-ash except on posterior half of primaries where it is soiled whitish tinged with smoky toward the basal portion. Primaries with anterior part of extradiscal line reflected and marked inwardly by a blackish shade. Secondaries with an elongate black discal mark divided by a clear white dot. A brown extradiscal line on the outer fourth of the wing running subparallel to the outer margin may be traced from the inner margin to vein  $Cu_2$  or  $M_1$  and from here on is marked on the veins by more or less distinct dashes.

*Types*.—Three males from Dr. Barnes, one cotype of which is deposited in the American Museum of Natural History.

*Habitat*.—White Mts. and Palmerlee, Arizona.

From above this species very closely resembles *Stamnodes delicata*, but besides having pectinated antennæ in the male, the present species is very different in design beneath. Structurally and in maculation it is more nearly related to *Petrophora volucer* and from this species may be distinguished by its somewhat shorter and broader wings and by its deeper coloring.

***Petrophora costimacula*, new species.**

Expanse, 30 mm. Palpi brown, tipped with white; front wholly white, vertex brown. Thorax and abdomen smoky-gray, the former with the collar and disk brown. All wings above smoky-gray, the fringes paler, and a stripe along costa whitish interrupted by two brownish spots near middle and outer two thirds and checkered at the base and apex with short transverse strigæ. Beneath, primaries smoky except at costa where they are yellowish irrorate with brown specks which, two thirds out from base, form a decided brown spot; secondaries concolorous with costal area of primaries and crossed by numerous short brown strigæ which near inner margin at center collect into a large spot. Discal spot large, brown, contrasting.

*Type*.—One male in the American Museum of Natural History (Grossbeck collection).

*Habitat*.—San Diego, California.

A species slightly resembling *Stamnodes gibbicostata* and *S. albiapicata*, but generically distinct from both. In *Petrophora* it falls in the same group with *rubrosuffusa* and *volucer*.

**DASYCOSYMBIA, new genus.**

Palpi moderate in length, slender, ascending, end member minute; tongue well developed; front smooth; antennæ of both sexes simple, in male strongly ciliated below. Thorax and abdomen untufted. Middle tibiæ with a single pair of spurs, posterior tibiæ of male with a single long spur one third the length of the tibia from the base and with a large dense hair-tuft which with the long hairs of the tarsal joints completely conceals the tarsi, the claws of which are obsolete; posterior tibiæ of female normal, with double pair of spurs. Fore wings with 12 veins and two accessory cells,  $R_1$ , from end of apical accessory cell,  $R_2$ ,  $R_3$  and  $R_4$  on one stalk. Hind wings with *Sc.* anastomosing with *R* for a short distance just beyond humeral bend,  $M_2$  present.

*Type*.—*Dasycosymbia gracilata* Gross.

Allied to *Charommatæa* Hulst but differing in the presence of the long spur on the hind tibia of the male and the extremely dense hair-tuft on this same joint which in *Charommatæa* is a comparatively slight fringe.

***Dasycosymbia gracilata*, new species.**

Expanse, 23.5–25 mm. Front, posterior portion of vertex and superior portion of palpi dark carmine-brown; remainder of head pale testaceous. Thorax,

abdomen and ground color of wings pale to dark testaceous, the lighter color prevailing chiefly in the female. Primaries crossed by three equidistant deep testaceous or slightly brownish lines, the first two of which, through a heightening in tint of the ground color, may be partly lost to view. The intradiscal line crosses the wing one third out from the base, is bent in on both margins, and angled inwardly on the cubital vein; it is sometimes slightly diffuse, especially on the costa. The median line, sometimes reduced to a shade, passes through the center outward of the discal spot which is small, rounded and distinctly white. The extradiscal line is markedly denticulate and follows in general the outer margin of the wing; it is usually strongly emphasized on the veins, and rarely the connecting lines are obsolete so that the line is reduced to an irregular row of spots. Terminal line distinct, broken at the veins. Fringes concolorous with ground color. Secondaries like the primaries but with intradiscal line missing and with median line usually obscure, though occasionally quite distinct; the extradiscal line corresponds to, and is exactly like, that of the forewings. Beneath, all wings pale testaceous with the costa of primaries and extradiscal lines, particularly the venular spots, brownish.

Described from ten males and four females received from Dr. Barnes, several cotypes of which are deposited in the American Museum of Natural History.

*Habitat*.—Redington; Christmas, Gila Co.; Baboquivera Mts., Pima Co., August; Santa Catalina Mts., Pinal Co., August 1-7—all in Arizona.

A species quite different from anything I know, with the mottled appearance of *Leptomeris plantagenaria* Hulst and color of *Cosymbia myrtaria* Gn.

***Deileina lenitaria*, new species.**

*Male*.—Expense, 32-36 mm. Palpi and front brown, vertex with mixed brown and white scales giving a whitish gray color. Thorax grayish with a reddish or purplish tinge. Abdomen silky yellowish. Ground color of primaries soft purplish-brown more or less irrorate with black atoms; margin testaceous. Intradiscal line one third out, blackish, broad, diffuse, obtusely angled at veins. Extradiscal line two thirds out, concolorous, rather broad, usually defined, bisinuous. A broad, diffuse median shade passes between these two lines which occasionally may join with them, the whole then forming a single broad band bounded by the intra- and extradiscal lines. A more or less developed submarginal line of black spots, the individual spots occasionally marked outwardly by a whitish dash, passes through the middle of the outer space. Discal spot black, moderate in size, conspicuous. In one specimen the cross lines and median shade are almost obsolete and the irrorations over the wing are very profuse. Secondaries pale yellowish becoming faintly purplish toward outer and inner margins; blackish irrorations are present, especially outwardly. An

indication of a cross line is present on the middle of the inner margin which extends a short distance into the wing. Discal spots small or absent. Fringes as in primaries. Beneath, pale yellowish pink with sparse irrorations, the disk of the primaries somewhat smoky.

*Female*.—The female of this species is quite uniformly pinkish or pinkish-yellow above and below, with the merest suggestion of the cross lines. The discal spot on the primaries and submarginal row of black spots is present, but reduced in size. Dusky irrorations disposed as in the male can be traced on the wings.

*Types*.—Six males and five females from Mr. Geo. H. Field; two males from Dr. Wm. Barnes. Types and cotypes are in the American Museum of Natural History.

*Habitat*.—San Diego, California, April 30, May 2, 4, 24, 31, June 16, 24, 25, 27, Aug. 1, 22, 23 and Sept. 9.

Compared with *D. fumosa* this species lacks the deep blackish-brown color and angular submarginal line bordered, especially at the apex, with rusty-brown. From *D. hulstii* it differs in the male by its much deeper and more complete ornamentation and in both sexes by its deeper coloring.

***Deilinea verdiaria*, new species.**

Expanse, 38–42 mm. Palpi and front pale brown; vertex whitish. Thorax and ground color of primaries yellowish with a distinct ferruginous cast, and more or less densely scattered over with deep brown atoms. Intradiscal line one third out, moderately broad, distinct or only vaguely indicated, slightly curved or irregular in its curves. Extradiscal line two thirds out, concolorous, rather narrow, defined or scarcely differentiated from the surrounding ground color. Subterminal line absent or represented by a more or less complete series of intervenular black spots some of which are outwardly bordered by a whitish mark. The inner and median areas are usually darker in color than outer area. Discal spot large, black, distinct. Secondaries whitish, irrorate with black dots outwardly. A cross line through the center, faint or absent on disk of wings, becomes distinct at inner margin. Beneath, yellowish-pink with scattered brownish atoms. Discal spots usually showing. Maculation absent.

*Types*.—Four males and one female in the American Museum of Natural History (Grossbeck collection).

*Habitat*.—Verdi, Nevada.

This species has the same type of ornamentation as *fumosa*, *lenitaria* and *hulstii* but is larger than all and in addition has a characteristic ferruginous tinge. In general aspect it is also on account of the dense irrorations a much more mottled species.

**Macaria puertata, new species.**

Expanse, 16-22 mm. Head, body and wings pale yellowish-gray overlaid with darker grayish-brown scales with an almost imperceptible pinkish cast. Two broad dark brown lines cross the primaries. The first one third out becomes evident in the cell and thence runs obliquely inward in a slight curve. The second less than two thirds out is sinuous, distinct on the costa but becoming very narrow a little below; on vein  $M_1$  a sharp angle is formed and thence it becomes heavier to inner margin. Discal spot a large diffuse spot or ring. Outer area more deeply shaded than inner or median areas, the outer half being more tinged with pinkish and paler than the inner half. Terminal line brown, broken, externally edged with whitish. Secondaries similar to primaries but usually more mottled with the overlaying color. The inner line is indistinct or absent; the outer line usually heavy and more or less sharply angled at middle. Discal spot absent or distinct. Outer area and terminal line as in primaries. Beneath, whitish specked with brown except outer area which is a quite uniform pale brown. Markings of above showing through but much paler. Discal spots large, distinct.

Described from ten males and four females received from Mr. Geo. H. Field. Types in the American Museum of Natural History; cotypes with Mr. Field.

*Habitat*.—La Puerta Valley, California, July 11, San Diego, California, July 31 and August 1.

Allied to *Macaria infimata* Gn., but with the cross lines much heavier and less angular. In *infimata* these lines are only rarely defined and usually tend to break up into dots while in the present species they are always present and exceptionally broad. A poor specimen clearly attributable to this species is in the Henry Edwards collection from Nebraska. It has not been made a type.

***Anthelia nigroseriata* Pack. and *A. taylorata* Hulst.**

In 1873<sup>1</sup> Packard described *Tephrosia nigroseriata* from two males taken in California by Edwards. The species is well diagnosed and there is no mistaking the particular form the author had before him. In 1876<sup>2</sup> he describes and figures on Plate IX, Fig. 60, under the name *Lozogramma nigroseriata* a different much larger insect from Victoria, Vancouver Island (Crotch), and Sanzalone, California, referring in his remarks following the description to the California specimens (those of Edwards' included, presumably) as being smaller and differing so much at first sight as to be taken for another species.

<sup>1</sup> Proc. Bost. Soc. Nat. Hist., Vol. XVI, p. 32.

<sup>2</sup> Monograph Geometrid Moths, p. 246.

In 1883<sup>3</sup> Hulst described *Tephrosia fautaria* from California and in 1896<sup>4</sup> another species, *Anthelia taylorata*, from specimens taken at Victoria, British Columbia. Incidentally, in this same paper he refers Packard's *nigroseriata* (which it appears he had misidentified)<sup>1</sup> to the genus *Deileinea* and his own species, *fautaria*, to a new genus erected for its reception, *Thallopaga*. *Anthelia* likewise is created for his species, *taylorata*. Still later in 1900<sup>2</sup> Hulst described *Tetraxis hyperborea* from Virgin Bay, Alaska.

Hence four names are involved which I would apply to two very distinct though congeneric species.

One species expands about 35 mm., the outer row of dots, when present, is evenly rounded to below costa and then straight to inner margin, and occurs, as far as our records show, along the Pacific Coast from Vancouver Island northward to Alaska. The other is smaller, expanding not more than 28 mm., and has the outer row of dots (which latter are usually connected by a narrow shade line) more or less defined, extending in pronounced waves to the inner margin. It has not been recorded outside of California from where (Monterey Co.) I have received a series of no less than thirty specimens.

Dyar<sup>1</sup> has already referred *Thallopaga fautaria*, the smaller form, to *Anthelia nigroseriata* but the fact that in the same note he refers *Tetraxis hyperborea*, of which he has the type, to the same species, which he says Packard figures well, indicates that he regarded Packard's name as applying to the large more northern form. His reference of *fautaria* to this form therefore is an error, for while *fautaria* does equal *nigroseriata* Pack., Proc. Bost. Soc. Nat. Hist., it does not equal *nigroseriata* Pack., Monogr. Geom. Moths.

The form described by Packard in the monograph will take the name *Anthelia taylorata* Hulst with *Tetraxis hyperborea* Hulst as a synonym, the genus *Anthelia* of Hulst being well founded.

The synonymy will stand thus:

<sup>3</sup> Entomologica America, Vol. III, p. 216.

<sup>4</sup> Trans. Am. Ent. Soc., Vol. XXIII, p. 337.

<sup>1</sup> Dyar, Proc. Ent. Soc. Wash., Vol. VI, p. 225, 1904.

<sup>2</sup> Proc. Wash. Acad. Sciences, Vol. II, p. 496.



***Anthelia nigroseriata*** Pack., Proc. Bost. Soc. Nat. Hist.

= *Thallophaga fantaria* Hulst.

***Anthelia taylorata*** Hulst. = *Lozogramma nigroseriata* Pack.,

Monog. Geom. Moths = *Tetrachis hyperborea* Hulst.

*Tephrosia* (*Catopyrrha* in Dyar's Cat.) *ferruginosaria* Pack. (Proc. Bost. Soc. Nat. Hist., XIII, p. 288, 1871, XVI, pl. I, f. 21, 1874) described from one female from California and referred by Packard himself (Monogr. Geom., p. 426) as a variety of *nigroseriata* (note that *ferruginosaria* is described earlier than *nigroseriata*) is a *Deilinia* and if not Guenée's *fæminaria* is at least Hulst's *celataria* which is said to be synonymous with Guenée's species.

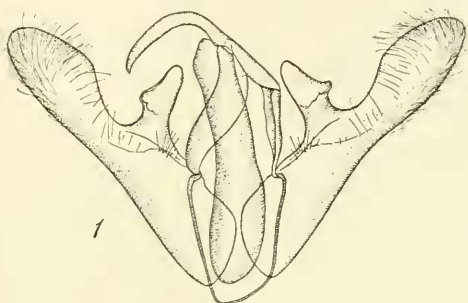
*Sericosema angulata* Warren (Novitates Zoologicae, XII, 361, 1905) appears to be a typical *Anthelia taylorata*.

***Catopyrrha coloraria*** Fabr. and ***C. sphæromacharia*** Harv.

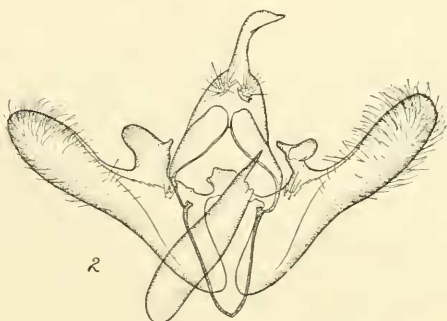
In Dyar's Catalogue of Lepidoptera *Catopyrrha coloraria* Fabr. is listed with four varieties. A revision of these forms shows that two valid species are concerned which are very easily distinguishable from each other. One, *coloraria* typical, varies from pale grayish-brown with a faint pinkish tinge, with darker brown markings (spring form) to clear yellow with roseate markings and fringes (summer form, *dissimilaria* Hubn.). The outer line of the primaries is rather broad, curved, and more or less diffuse. Beneath, the heavy mottling varies from brownish (*coloraria*) to deep red (*dissimilaria*). The other species, *sphæromacharia* Harvey, is also pale grayish with a pinkish admixture and varies to yellow and olivaceous. The outer line of the primaries is straighter, narrower, and more defined and extends more toward the apex of the wing on the costa. Beneath, also, the reddish mottling is reduced in extent and tends to form a distinct and defined cross line. Occasionally, however, the entire outer field is quite uniformly reddish except for patches of ground color below vein Cu<sub>1</sub>. In the typical form of this species there are two large black spots in the outer area of the primaries above, one at the center and the other near the inner margin. *Perolivata* described by Hulst as a variety of *coloraria* is referable to this species but the black spots are greatly reduced in size, being practically absent. The variety was based on color which differed much from the type form of *coloraria* but in this respect is identical with

Harvey's species. Since it differs from this however in the absence of the large spots it may well be retained as a variety of it on this character.

Structurally, the two species differ in wing shape, those of *sphæro-*



1. *Catopyrrha coloraria*.



2. *Catopyrrha sphæromacharia*.

*macharia* being considerably more acute than in *coloraria*, and in the length of the palpi, those of the former being decidedly longer and more slender than those of the latter.

In describing *sphæromacharia* Harvey seems to have noticed the decided difference between this species and *coloraria* but, apparently in deference to Packard's view, describes it as a variety of *coloraria*.

My notes and specimens would indicate that *coloraria* is distributed from London, Canada, southward along the Atlantic seaboard to and including Florida. *Sphæromacharia* seems not to



occur north of Georgia and Arkansas (Carroll Co.) and extends southward to Florida and Texas.

The two species with their synonyms and varieties should stand thus:

*Catopyrrha coloraria* Fabr. (forma verna) = *accessaria*

Hubn. = *cruentaria* Hubn.

Var. *dissimilaria* Hubn. (forma æstiva) = *olenusaria* Walk.

*Catopyrrha sphæromacharia* Harv.

Var. *perolivata* Hulst.

*Ferruginosaria* Pack. listed with *coloraria* under *Catopyrrha* in Dyar's Catalogue, and *Catopyrrha hulstii* described by Dyar (Proc. Ent. Soc. Wash., VI, 226, 1904) belong to *Deilinea*. *Atropunctaria* Walk. is said by Mr. Prout (Gen. Ins., fasc. 129, p. 250, 1912) to be a synonym of *Pseudoterpna pruinata* Hufn. an European species, the locality given for it, "East Florida," being incorrect.

*Selidosema wrightiaria* Hulst and *S. inconspicua* Hulst.

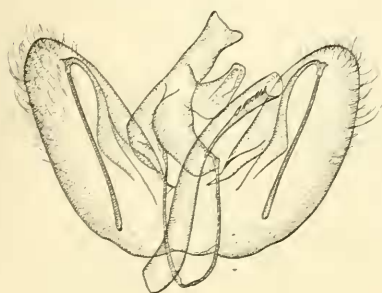
In 1888 (Ent. Am., III, 215) Hulst described *Boarmia wrightiaria* from four males taken at San Bernardino, California, and in 1896 (Trans. Am. Ent. Soc., XXIII, 264), *Chloroclystis inconspicua* from one female<sup>1</sup> also from California. In the Canadian Entomologist (Vol. XL, p. 344, 1908) Pearsall after an examination of the type says this latter "proves to be the female of *Selidosema wrightiaria*." While not contradicting this contention the present writer in 1909 (Can. Ent., XLI, 194) cast a shadow of doubt upon it, and in a discussion of *wrightiaria* limited the name to the type in Hulst's own collection at Rutgers College. Incidentally he also remarked, because the type at New Brunswick did not exactly correspond to the measurement given in the original description, that Hulst may also have had another species (*Clcra agrestaria* Gr.) before him, and this proves to be correct, as a male type of *wrightiaria* in the Brooklyn Museum represents *agrestaria*.

Recently I have had an opportunity of examining quite a number of specimens both of *wrightiaria* as limited by me and of the form described as *inconspicua*. Though evidently nearly allied the species

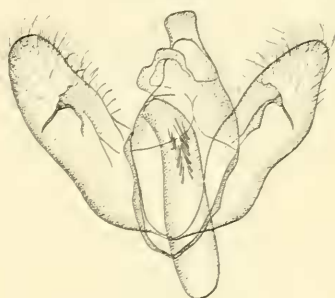
<sup>1</sup> In the generic diagnosis of the genus erected for *inconspicua*, Hulst refers to a male, but in the specific characterization he says he has one female only, and this is borne out by the type specimen which is a female.

are distinct as will be seen by the accompanying figures of the genitalia. Superficially *inconspicua* is smaller than *wrightiaria* and may be otherwise distinguished by the course of the cross lines of the hind wing which in *inconspicua* follow more nearly the outer edge of the wing.

I have, through the kindness of Mr. Field, also a type of Dr. Dyar's *Selidosema æthalodaria* and if the other five types are the



*Selidosema inconspicua.*



*Selidosema wrightiaria.*

same as this, and presumably they are, the name is a synonym of *inconspicua*.

**Cleora ? glaucaria, new species.**

Expanse, 36-38 mm. Palpi and front brown, vertex brown posteriorly, grayish or distinctly white anteriorly. Thorax brown, paler at the collar, abdomen pale yellowish-brown. Ground color of primaries brown and pale bluish-white, the latter color, slightly intermixed with the brown, chiefly occupying the space to the median shade, the outer part of the median area, and the center of the outer area just preceding the subterminal line. Intradiscal line brown, not broad, boldly and evenly outcurved to inner margin; crosses the wing about one third out but extends inward on both costal and inner margins. Median shade broad, quite well defined on inner side, diffuse outwardly; strongly angulated on discal cell, and less so on anal vein. Extradiscal line brown, well defined, scalloped; begins one third in on costa, extends outward to vein  $M_2$ , then inward to inner margin, ending less than one third out on this margin. Subterminal line denticulate, bordered inwardly by the bluish ground color and outwardly by the brown ground color. Terminal line poorly defined, brown. Fringe edged by a brown line. Discal spot not large, distinct. Secondaries pale grayish brown, slightly darker outwardly. A single irregular, rather fine brownish line crosses the wing just exterior to the faint discal spot. Fringes and terminal line as in primaries. Beneath, uniformly yellowish tending to flesh color, no spots or lines reflected.

*Types*.—Two females from Dr. Barnes, one cotype of which is deposited in the American Museum of Natural History.

*Habitat*.—Palmerlee and Redington, Arizona.

This species is most nearly related to *Alcis lallata* Hulst and *Cleora lixaria* Grt., but is separable from both by the position and course of the intradiscal line which in the present species is boldly and evenly curved, not strongly angulate both in the discal cell and on the anal vein as it is in both the first mentioned species.

***Euemera angularia* Gross.**

This species described in the Journal N. Y. Ent. Soc., XVI, 27, 1908, is a small *Eriplatymetra grotearia* Pack. The type is in the Academy of Natural Sciences, Philadelphia.

EXPLANATION OF PLATE XVII.

1. Venation of *Dasycosymbia gracilata*.
2. Fore leg of male.
3. Mid leg of male.
4. Hind leg of male.
5. Head and appendages.
6. Section of antenna at middle.

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MISCELLANEOUS NOTES.

**Color Pattern in Coleoptera Wings.**—On June 26, 1912, while beating scrub pine at West Point, N. Y., I found in my umbrella *Sinoxylon basilaris* Say. It had unfortunately been struck and injured. Its wings were extended and I noted that these wings were blotched with blackish. The wings of *Myodites fasciatus*, which are never folded, are also marked with patches of pigment, but the above is the only case which has come to my attention of beetle wings, covered by the elytra, having a color pattern.—WIRT ROBINSON.

**Fiery Ground Beetle (*Calosoma calidum* Fabr.).**—An examination of museum specimens resulted in finding under the wing covers of one of these beetles, a group of 4 or 5 large, oval puparia, probably those of *Biomyia georgiae* B. & B., a parasite reared from this insect in 1898 by Mr. A. F. Burgess. The occurrence of parasites in the